Contextualizing climate justice activism: knowledge, emotions, motivations, and actions among climate strikers in six cities

Article (Accepted Version)

Contextualizing climate justice activism: Knowledge, emotions, motivations, and actions among climate strikers in six cities

Martiskainen, M.[1*], Axon, S.[2], Sovacool, B.[1,3], Sareen, S.[4,5], Furszyfer Del Rio, D. D.[6], Axon, K[7]

Accepted for publication in *Global Environmental Change* 23.09.2020

* Corresponding Author, Science Policy Research Unit (SPRU), University of Sussex
Jubilee Building, Room 323, Falmer, East Sussex, BN1 9SL
Phone: +44 1273 876715, Email: m.martiskainen@sussex.ac.uk

[1] Science Policy Research Unit (SPRU), University of Sussex Business School, University of Sussex, United Kingdom
[2] Department of the Environment, Geography, and Marine Sciences, Southern Connecticut State University, United States of America
[3] Center for Energy Technologies, Department of Business Development and Technology, Aarhus University, Denmark
[4] Department of Geography, Centre for Climate and Energy Transformation, University of Bergen, Norway
[5] Department of Media and Social Sciences, University of Stavanger, Norway
[6] Centre for Environmental Policy (CEP), Imperial College London, United Kingdom
[7] The Foote School, New Haven, United States of America

Acknowledgements
The authors would like to thank all the protesters who gave their time for the research amidst protesting.

Funding
This work was partly supported by the University of Sussex Business School Research Excellence Award for Emerging Scholars 2019; and The Trond Mohn Foundation and the University of Bergen – Equinor Akademia Agreement.

Declaration of competing interests
None

Abstract
In August 2018, Swedish teenager Greta Thunberg started to strike from school on Fridays to protest against a lack of action on the climate crisis. Her actions sparked a historically large youth movement, leading to a series of school strikes across the world. Over the course of one week in September 2019, striking school children, students and other grassroots movements, such as Extinction Rebellion, called for everyone to participate in a global Climate Strike. This paper is based on comparative research with climate protesters in six cities: Brighton and London (United Kingdom), Montreal (Canada), New Haven and New York (USA), and Stavanger (Norway). Based on original interviews with 64 protesters, the study examines their knowledge, emotions, motivations, and actions in relation to climate change, including any lifestyle changes they have undertaken before or after their protests. Our findings show that protesters have varying degrees of knowledge about climate change, and have taken a

range of actions in their own lives to address climate change. They also manifest a wide spectrum of emotions about climate change, and different motivations for taking part in climate strikes. These features are under-studied and dynamically evolving at the present conjuncture. On this basis, we call for expanded academic attention to human, emotional, epistemic, and seemingly mundane aspects of climate protests, their structural tendencies and relational expressions, and the implications for our ability to address underlying drivers.

Keywords: Fridays for Future; climate protests; climate strikes; social activism; Greta Thunberg; social movements

1. Introduction

Striking and protests to raise awareness about climate change – prefaced by prior protests such as those held in Copenhagen during the 2009 United Nations climate summit – became truly global phenomena during 2018 and 2019. Their global sweep was inspired by Swedish teenager Greta Thunberg, who started striking from school on Fridays in August 2018, to protest a lack of action in addressing the causes and impacts of climate change. This sparked one of the largest youth movements in history, leading to school strikes, as well as wider climate strikes, across the world (Fridays for Future, 2020).

In September 2019, an extraordinary number of people and organisations took part in a Global Climate Strike. An estimated 7.6 million people participated in 185 countries, involving 6,135 distinct events, 73 trade unions, 3,024 businesses, and 820 organisations (BBC News, 2019; Global Climate Strike, 2019). This constituted one of the largest environmental social movements to date. Schoolchildren and students participated alongside adults and other activist leaders, facilitated by several grassroots organisations who promoted the strike via their websites and social media channels (Earth Strike, 2020; Extinction Rebellion, 2020; Fridays for Future, 2020; Global Climate Strike, 2019). These strikes took place in city centres, university campuses and on village greens, with many organisations and corporations allowing, and even encouraging, their employees to take part.

The main stated aim of this assemblage of strikes was to spread the message of a need for urgent action on the climate crisis. As a consequence of the strikes, Jeff Bezos, the CEO of online retailer Amazon, promised to make the company carbon neutral by 2040, and to meet the goals of the Paris climate agreement (BBC News, 2019). He also ordered 100,000 electric delivery vehicles, due to enter service in 2021 (BBC News, 2019). Technology company Google announced that it would make a corporate purchase of renewable energy worth $2 billion, including millions of solar panels, and hundreds of wind turbines (The Guardian, 2019). This pledge means Google will produce more electricity than entire countries such as Lithuania or Uruguay. Ingka Group, which owns furniture giant Ikea, also announced it would invest in solar and wind energy to beat its target to produce as much renewable energy as it uses by 2020 (Fast Company, 2019). In November 2019, Collins Dictionary named ‘climate strike’ its word of the year (Collins Dictionary, 2019), while Oxford Dictionaries named ‘climate emergency’ their word of the year (Oxford Dictionaries, 2019). Additionally, Time magazine chose Greta Thunberg as their ‘Person of the Year’ (Time, 2019).

While climate strikes have been increasing in quantity and scale, generated traction, and even some large commitments to address the drivers of climate change, climate strikers themselves are relatively unknown in terms of their knowledge about climate change, their emotive and motive aspects, and their efforts in relation to climate action. As Fisher (2019:

431) notes, "although we have some knowledge as to how adult activists mobilize to participate in protest and social movements, research has yet to devote much attention to understanding how well these findings apply to young people when they engage in activism... Overall, the ways participants in #FridaysForFuture communicate, how they connect with youth-led organizations, as well as how these organizations form and function, are not well understood. To appreciate the social and political effects of this movement — how individuals are participating now, what it will mean for them over their lives and the political outcomes of their activism — research is greatly needed".

In this study, we therefore ask: *What knowledge do activists have about climate change? What emotions do they have with respect to climate change? What motivates them to take part in a global climate strike?* and *What action(s) have these people taken, or plan to take after their participation in the strike?* We address these questions through original empirical qualitative research, conducted via interviews with climate strikers in six cities across four countries: Brighton (UK), London (UK), New York (USA), New Haven (USA), Montreal (Canada), and Stavanger (Norway). These strikes are all located in highly industrialized countries, where per capita greenhouse gas emissions are considerably higher than the global average. Our study therefore offers a rare and comparative overview, combining conceptual reflection with empirical insights, and keeping scholarship adaptive to the growing real-world realities of climate protests. We aim to provide insights into the conjuncture of processes of global environmental change and patterns of climate activism in terms of cognitive (knowledge), affective (emotions, motivations) and behavioural (actions) aspects of climate protests.

While we focus on the climate strikes of 2019, we build on work in the *longue durée*, notably the dynamics of increasing climate protests evident during and after the United Nations Framework Convention for Climate Change (UNFCCC) Conference of Parties 15 (CoP 15) held in Copenhagen in 2009 (cf. Fisher, 2010). As Fisher (2010: 11) shows, "ironically and counter-intuitively, the massive expansion of civil society participation at Copenhagen was not only accompanied by civil society disenfranchisement, it actually contributed to it". Our findings allow us to unpack key implications from the 2019 climate strikers, reflecting on the identity and effectiveness of the growing environmental movement. In part, we address the research gap indicated by scholars like Fisher (2019) and Wolf and Moser (2011) by bringing evidence on how climate protesters conceptualise the climate crisis; emotionally respond to it; and behaviourally address it in terms of climate mitigation and/or adaptation.

Our paper is organised as follows: Section 2 presents our literature review of environmental activism, climate justice, and public engagement. Section 3 outlines our conceptual framework and qualitative case study method. Results are shown in Section 4 and discussed further in Section 5. We conclude with Section 6 by making recommendations for future research.

2. Environmental activism and public engagement: A review of literature

Sustained large-scale protests linked with the climate crisis are an unprecedented phenomenon, even though environmental protesting is not new. We have seen protests of comparable scale and intensity for other causes in the past too, including, for example, for austerity politics, wars, gun violence, and political referendums (e.g., Hall, 2011; Klimke and Sharloth, 2008). However, the drivers of protest movements, and the ways in which they manifest, vary. In this section, we first unpack scholarship on the intersection of

environmental activism and climate justice, and then attend to work that focuses specifically on public engagement with sustainability.

2.1. Environmental activism and climate justice

Previous literature on environmental activism and movements can illuminate understandings of how protesters hope to catalyze and enact system change to address climate change. A rich array of historical research on environmental movements and activism highlights the evolution of concern over the impact of human action on ecosystems and the natural world.

Almost 60 years ago, ground-breaking work by Rachel Carson brought the impact of man-made pesticides to the public eye (Carson, 1962; see also Montrie, 2018). Since then, activists and social movements have sought to raise awareness of, and halt, developments with adverse environmental impacts (Jamison, 2010). These have included movements against energy infrastructures, like nuclear plants (e.g., Buns, 2017; Kitschelt, 1986; Takao, 2019), fossil fuel plants (Ottinger, 2013), and even renewable energy projects (Watts, 2018). Protesters have used by social mobilizing campaigns and legal processes to take on mining companies that have threatened ecosystems (Bebbington et al., 2018). In countries like Brazil and Borneo, protesters have sought to end illegal rainforest logging and intensive farming (Dove, 2019; Wolford, 2008). Environmental activists in the UK have courted arrest for disrupting fracking sites (Hilson, 2015). Much activism around climate change has focused on specific campaigns such as keeping fossil fuels in the ground (Princen et al., 2015), divesting from polluting projects (Blondeel, 2019), and countering fossil fuel infrastructure expansions like pipelines and new explorations in ecologically valuable areas like the Arctic (Dale et al., 2019). Other domains feature campaigns to reduce consumption (e.g., plastics) and promote sustainable consumption (Middlemiss, 2018). Historically, and more generally, such activism has constituted a driving force for change, so much so that the environmental movement that came of age in the 1960s in Western countries has had an enduring influence on politics, with environmental ministries now a formalised feature of these national governments (Rootes, 1999). The 1960s and 1970s saw the birth of multiple acts, regulations, and policies centred on wilderness protection, waste management, clean air and water provision, land use management, energy efficiency and conservation, and the protection of non-human species and habitats. According to historian Robert Nash (1990: 45), it was during this time that "environmentalism changed from a religion to a profession" and moved from a "blue-jean-and-granola style of conservation evident at the time of the first Earth Day" (on 22 April 1970) to a sophisticated and lasting social movement.

Despite their importance, environmental social movements have been relatively neglected within academic literature (compared to green political parties for instance), which may have been due to the lack of well-portrayed connections to other motivations such as social justice. Social movements exist in a complex protest space; their boundaries are not always distinct and their mobilisation is often influenced by previous or contemporaneous movements (Hadden, 2014). Rootes (1999) argues that an "environmental movement" is a rather vague term, and one left strategically ambiguous in order to be inclusive. Yet Burns and LeMoyne (2001) analyse what is likely to make a movement successful, and compare environmental movements to this ideal type. It is clear from their analysis that the priorities identified by environmental movements are often not of high concern for the broader electoral base, yet they can be effectively co-opted when addressing issues of immediate concern to political constituencies. Indeed, Schlosberg (2007) identifies the propensity of

environmental justice movements to solely refer to the distribution of environmental ills and benefits as a weakness. Over the past decade, approaches that were initially seen as being on the radical left politically have generated widespread interest. Concepts such as "degrowth" (cf. Kallis, 2011) and "doughnut economics" (Raworth, 2017) have gained policy traction beyond environmental movement circles, for instance with the European Commission. Degrowth theorists argue that we need to reduce production and consumption, as overconsumption causes many of the world's environmental problems and social inequalities (Kallis 2011). Doughnut economics, meanwhile, is based on an economic system that meets all of the world's needs without exhausting the planet (Raworth, 2017). In calling for a mission-oriented approach to addressing climate change, Mazzucato (2018) for example, indicates that an overtly narrow focus on redistribution by progressive groups allows wealth creation – often based on ignoring negative environmental externalities – to fly under the radar.

Recent research on environmental activism centres on "climate justice": the recognition that the impacts of climate change disproportionately impact the most vulnerable, marginalised, and least resilient populations in society (Perkins, 2019). This frames climate change as an ethical and a political matter (Caney, 2014), linking climate justice with human rights and human-centric approaches to development that safeguards the rights of the most vulnerable while sharing the burdens and benefits of climate change equitably (Mary Robinson Foundation, 2019). Caney (2014) specifies two kinds of climate justice. The first focuses on how the burden of addressing the problem should be shared equitably among duty-bearers; defined as '*burden sharing justice*'. The second centres on the imperative to prevent climate change and focuses on who should do what to ensure that a catastrophe is averted; defined as '*harm avoidance justice*'. This second perspective is concerned with potential victims and ascribes responsibilities to others to uphold threatened entitlements (Caney, 2014).

Hadden (2014) identifies how the climate justice movement has increasingly attempted to frame the climate crisis (as a symptom of a system destroying the planet and communities) from the angles of capitalism, migration, gender, militarism, labour, class, and food production. To broaden mobilisation, multiple groups have coalesced around a justice framing for the climate issue, extending their advocacy also as a struggle for social, ecological and gender justice (Hadden, 2014; Perez et al., 2015). Indeed, one of the main tenets of the climate justice movement is that people of colour, women, and the world's poorest bear a disproportionate share of societal environmental problems (Rainey and Johnson, 2009). Furthermore, these injustices are exacerbated by powerful agents acting in their self-interest. These agents are able to exploit, and expose, vulnerable groups to environmental degradation because they are powerless, less informed, and less organised to fight such decision-making (Bullard, 1994; Rainey and Johnson, 2009).

Contemporary climate movements, such as Fridays for Future (Fridays for Future, 2020) and the Sunrise Movement — which originated as a social welfare organization on the US East Coast in 2015 (Sunrise Movement, 2020) — have indicated that climate justice features heavily in their motivations to strike and protest. It is also reflected in the names of longer-running groups like the Climate Justice Network, which brings together academics, policy makers, and activists (Climate Justice Network, 2020), and Climate Action Now, a Canadian climate campaigning group (Climate Action Now, 2020). Moreover, 'deep ecology' perspectives are frequently present within current climate justice activism. They call for radical measures to challenge the carbon-intensive consumption patterns in 'developed'

countries, and instead, place eco-centric requirements before anthropocentric needs (Wall, 1994). Deep ecology is a movement which considers humans to be equal to other species, requiring action and social reform so that humans and nature can live in harmony (Drengson 1995).

The above literature argues that widespread environmental and climate justice movements in fact have three central arguments: 1) equity in the distribution of environmental risks, 2) recognition of diverse participants and experiences in affected communities, 3) and the importance of wider participation in the political processes that shape environmental policy (Schlosberg, 2007). Calls for citizen assemblies by activist groups such as Extinction Rebellion — which is a global movement that uses non-violent civil disobedience to highlight the threat of climate change (Extinction Rebellion, 2020) — reflect the need for participation in political processes (e.g. Schlosberg, 2007) to build consensus for transformational change. Furthermore, Burns and LeMoyne (2001) advocate that environmental movements remain attentive and responsive to other, overlapping causes, as without this, more pragmatically astute movements may impose their own priorities, leaving environmental concerns out as the central organising principle.

2.2. Public engagement with sustainability initiatives and movements

There is broad consensus that for environmental movements and climate justice initiatives to succeed, public engagement is central (Heiskanen et al., 2010; Mulugeeta et al., 2010; Sareen, 2020). Wolf and Moser (2011: 550) indicate that public engagement refers to a "*personal state of connection*" with the issues of climate change and sustainability, rather than engagement as part of a process in policy making. It therefore has three main components: what people *know* (cognitive, i.e. knowledge/understanding), *feel* (affective, i.e. emotions/motivations), and *do* (behavioural, i.e. actions/responses) with respect to sustainability and climate change in their everyday lives (Whitmarsh et al., 2013; Axon, 2016). These three facets are not related in mere linear fashion, but rather interact with each other in complex ways; e.g., behavioural change can precede cognitive or affective change, and vice versa (Whitmarsh and O'Neill, 2011). Therefore, it is not enough to simply know about climate change in order to engage with it. Individuals also need to care about it, be motivated by it, and be able to take action to address it (Lorenzoni et al., 2007), often with links to personal underlying values (De Groot and Steg, 2007; De Groot and Steg, 2008; Steg et al., 2014).

Public engagement can be temporal and fluctuate: it needs to be facilitated in the short-term and sustained for the long-term (Axon, 2016). Schussman and Soule (2005), for instance, found that there are people, usually politically liberal and/or active in politics, who take part in protests without being asked. But people who are asked to protest are more likely to take part, with young people interested in politics, and students in particular, being more likely to be asked to take part. Engagement can thus be responsive and sensitive to external stimuli.

Public engagement in the form of local community-based sustainability initiatives is oriented at challenging mainstream practices by providing viable alternatives to address the challenges of 'Peak Oil' and climate change (Seyfang and Smith, 2007; Smith et al., 2014). 'Transition Towns', for example, are community-led local networks that build environmental sustainability and social resilience in the face of climate change. Totnes in the UK was one of the first ones to be set up (Transition Town Totnes, 2020), and the movement has grown into the Transition Network (Transition Network, 2020). 'Peak oil' is the theorised date when fossil fuel exploration and production reach their peak, whereafter supplies decline (e.g. Sorrell et

al. 2010). Initiatives such as the Transition Town movement share multiple characteristics with social movements in terms of their resistance to existing power structures, identity, and societal goals (Pesch et al. 2018). As part of these initiatives, there are consistent efforts to facilitate and sustain public engagement to reduce carbon-intensive practices through awareness raising activities such as film showings, participatory events, group discussions, educational resources, and local food production and consumption (Axon, 2020). These activities seek to involve residents and members of sustainability initiatives to act creatively and collectively, particularly in instances where individualistic approaches have previously failed to alter unsustainable lifestyle practices (Mont et al., 2014; Verplanken and Roy, 2016).

With respect to environmental social movements, activism itself is a form of behavioural engagement, and one that can be highly visible to others and shared across many media platforms. Activism can employ diverse means of communication strategies, techniques and public engagement approaches to involve as many protesters as possible, and to gain the attention of those who are not striking or protesting. For example, in Spain, Portos (2019) found that younger activists demonstrating against austerity differed from older protesters: they strategically deployed a more grassroots approach, incorporated innovations such as performances, and employed less formal organisational structures (e.g. by using Internet-based digital tools).

However, the character of protest actions fluctuates over time and the volume of sustained participation can wane (Hadden, 2014). While the number of people engaged in protest activities is not necessarily growing year-on-year, there has been a dramatic increase in the number of people claiming to have engaged in protests since the mid-1970s (Dalton et al., 2010; Saunders et al., 2012). Participation in protests and social movements has been explained to be the product of frustration, anger, and alienation from the political system (Gurr, 1970). Even though the disaffection from democracy has been criticised, grievances and emotions remain crucial for motivating individuals to participate in action on issues underpinned by moral concerns (Saunders et al., 2012).

With respect to affective engagements with participation in sustainability-related protests, anger and frustration are classified as “approach” emotions, and fear and worry as “avoidance” emotions (Klandermans et al., 2008). Protesters who identify with a group they consider powerful are more likely to experience approach emotions, and, consequently, more likely to participate in protest actions (Saunders et al., 2012, see also Schussman and Soule, 2005). Conversely, those who consider a group to be weak are more likely to experience avoidance emotions and not take action (Klandermans et al., 2008; Saunders et al., 2012). Motivations to protest are not solely emotional, but also ideological or identity-based and linked with the desire to express such views (Klandermans, 2004).

In contrast to many community-based sustainability initiatives, Rainey and Johnson (2009) identify how women of colour have led the way in the environmental justice movement; relying upon established community networks with civic and voluntary organizations, religious institutions, and community-based groups, to build egalitarian organizational models that promote equity and justice for at-risk, marginalized, and disenfranchised communities. Fisher et al. (2018) find that participants hold intersectional motivations across gender, race, and sexuality, but that the patterns of these overlapping motivations are not particularly durable and differ among participants at every protest. This is consistent with insights on the diverse temporalities of local sustainability initiatives (Grandin and Sareen 2020).

Tapping into the expressed psyche and emotions of environmental protesters during a climate strike can thus provide a window of empirical insight into an important subject with relatively little research on it: drivers of public engagement with sustainability and their embodied manifestation in the form of socio-political mobilisation.

3. Research methods and conceptual approach

To explore contemporary environmental and climate activism, our study is based on original, comparative and multi-sited field research undertaken during two days of climate strike action in September 2019.

3.1. Case study selection

We chose our case cities based on several factors. Our aim was to include small, medium and large cities to gauge the level of public engagement amongst citizens from potentially different size protests. We selected cities in highly industrialized countries that have relatively high consumption and are thus responsible for both high consumption and emissions patterns. We used historical emissions as a frame to outline the potential personal responsibility of protesters. We made a conscious decision to not spread ourselves too thin across a large set of uncertainties by adding one or two 'developing' country cities for symbolic purposes (one or more additional studies of relatively comparable contexts, followed by a comprehensive, large-scale study, would be a more appropriate approach to ensure academic rigour). Furthermore, the selection criteria were also influenced by the ability of the team of authors to conduct coherent fieldwork across selected cities on the actual strike days. This was considered advantageous to gain insights into potential differences across socio-cultural aspects of engagement with the climate strikes. The chosen cities include (see also Figure 1):

Brighton (UK): The climate strike in Brighton took place on 20th September 2019 and started on Hove Lawns located on the seafront of the coastal city. The strike action commenced at 11:00 a.m. with speeches from local Green Party Member of Parliament Caroline Lucas and Member of European Parliament Alexandra Phillips. Primary and secondary school children, students, families, and adults of all ages took part and groups such as Extinction Rebellion, Climate Action Now, Fridays for Future, vegan activists and political parties were present. The striking crowd walked from the seafront through the main streets of the city centre, which were closed off for traffic, onto The Level park where further speeches by Extinction Rebellion and student climate protesters took place. Local police estimated that 5,000 to 7,000 protesters participated in the climate strike (Brooke, 2019).

London (UK): The climate strike took place in Downing Street, central London, where around 100,000 climate protesters concentrated outside the Houses of the Parliament on 20th September 2019. The strike not only gathered pupils and parents, but also a large number of environmental, social and political organizations, such as Earth Watch Institute, Animal Rebellion, the Green Party and trade unions (e.g. Trades Union Congress). From 11:00 am onwards, speakers such as the former Labour Party leader Jeremy Corbyn, journalist Owen Jones and Green Party MP Caroline Lucas (who had earlier spoken at the Brighton protest) addressed the crowds in Millbank. Complementary to this, a set of action took place around London, where different local rallies supported the movement. Although these activities were scheduled to finish at 3:00 p.m., people were encouraged to stay longer.

Montreal (Canada): The start of the protest was due to begin at the Sir George-Étienne Carter monument in Mount Royal Park on 27th September 2019. However, numerous groups started to protest on the way to the park along Sherbrooke Street and Park Avenue. Protesters gathered in the street and park waiting to march through the city to see Greta Thunberg speak on Boulevard Robert Bourassa. While waiting, numerous climate justice groups such as Sunrise Movement and Extinction Rebellion formed a line waiting to march. At Mount Royal Park, there were distinctive messages reflecting indigenous rights from climate justice activists. The march slowly progressed through a number of arterial roads before culminating at Boulevard Robert Bourassa to hear a few climate justice activists speak. Overall, an estimated 500,000 people protested in Montreal, making it one of the largest protests in Canadian history.

New Haven (USA): Organised by the New Haven Climate Movement, this climate strike began at 4:00 p.m. on 20th September 2019 at a corner of the New Haven Green. The organizers decided to start at this time to encourage more families and students to attend after school. An estimated 400 people attended the strike. There was a mix of families, students from local schools and universities, and older activists. As it reached 4:00 pm, the crowds gathered and around 100 Yale University students and faculty came across the Green chanting in solidarity with the local protesters. These students, protesting from 3:00 pm onwards, had organised speeches and a walk from the university campus which led them to the main strike. Many protesters dressed in black to pay respect to those who have died, are dying, and will die due to the climate crisis. Tomb stones were erected and the first set of speeches started around a casket. The protesters travelled around the four corners of the Green with a speech at each corner from local organisations supporting the Green New Deal, as well as student voices from local schools and universities. The strike culminated with speeches, a song and a 'die-in' in front of the town hall that spilled out onto the road police had cordoned off. The strike lasted for one and a half hours.

New York City (USA): Protesters gathered in Foley square to begin before officially marching to Battery Park. During this time, protesters listened to numerous speeches by activists while waiting for more people to join the march. Large groups that had been organised by groups other than Fridays for Future, such as Extinction Rebellion and other climate justice interest groups, gathered ahead of the official march time. There was a large police presence attempting to maintain the protesters within Foley Square, yet the large amount of people meant that roads around the square were blocked off. A significant number of news outlets were reporting the protest, and both media and police helicopters were monitoring the protests in the square and throughout the march. The march began and progressed along Broadway (main road through Manhattan) to Battery Park, gathering more protesters along the way. At Battery Park, climate activists spoke with the main focus of the New York protest being on Greta Thunberg's speech. Following this, the majority of protesters dispersed, while some remained for further activities. Overall, over 315,000 people protested on 20th September 2019 in New York City.

Stavanger (Norway): The climate strike in Stavanger was hosted by Kunsthall Stavanger on 20th September 2019. This is an urban art centre that was closed during the day in support of the global climate strike, and then opened in the evening to host a T-shirt printing workshop at 5:00 pm with two pre-fixed slogans conducted by an artist, who subsequently gave a talk at 7:00 pm titled 'Plenary Futures' about sustainable visual design. Thus, the protest was not a demonstration in a public area, but rather a reflective event with public sign-posting in support of the global climate strike. Participants had ample opportunity

to share their views with each other over refreshments and pre-planned activities, as well as during an intimate conversational setting following the talk. With an estimated 20 participants, the Stavanger strike was smaller than the other climate strikes included in this study. However, it was the only one held in what is Norway's fourth-largest city and known as the country's 'oil capital'.

Figure 1: Landscapes of climate protests and strikes in six cities

a. Brighton

b. London

c. Montreal

d. New York

e. New Haven

d. Stavanger

Image source: Authors

3.2. Conceptual framework

As a conceptual framework to help guide and structure our analysis, we synthesize from the literature on climate and environmental activism and public engagement (see Section 2), as well as from psychology, geography, and science and technology studies. This collective literature suggests that strikes or protests involve three main components: 1) cognitive (knowledge); 2) affective (emotions/motivations); and 3) behavioural

(actions/forms of engagement) (Whitmarsh and O'Neill, 2011; Wolf and Moser, 2011; Axon, 2016). Furthermore, this literature indicates that public engagement is not static but fluid, and subject to change as a matter of life-course and contextual changes (Axon, 2020).

Affective responses are often considered to display positive, ambivalent, or negative emotions that seem to reflect a continuum towards how individuals feel about (addressing) climate change and sustainability initiatives (Axon, 2016). On behavioural action, we also reflect on the work by De Groot and Steg (2007; 2008) and Steg et al. (2014) who identify different values underlying our behaviour. *Altruistic* values are rooted in helping others; *biospheric* values are about helping the earth; *egoistic* values are about making oneself better off; and *hedonic* values are about enhancing one's own happiness.

Consideration of emotion within social science research has often been seen as a "fuzzy" issue with limited applicability; yet, an emerging research area outlines that the emotional dimensions of sustainability and climate change are integral to sustainable transformations (Brown et al., 2019). Behavioural engagements are equally important, as they may reflect the willingness to participate in, and the ability to undertake, sustainable lifestyles (Axon, 2017).

3.3. Data collection

We conducted 64 interviews with protesters on Friday, 20th September 2019, in Brighton, London, New Haven, New York and Stavanger (six interviews were conducted over the phone during the weekend following the strike) and on Friday, 27th September 2019, in Montreal. Before data collection commenced, an ethical approval for the research was given by the University of [removed for blind review] Social Sciences & Arts Cross-Schools Research Ethics Committee. Interviewees were approached by an onsite researcher on the strike day, and were chosen based on their willingness to spend ten to twenty minutes on the interview and to sign a consent form after being sufficiently informed about the purpose of the study. There was an effort to ensure diverse representation in our coverage of climate protesters across factors such as age, race, and gender. Furthermore, randomness in terms of multiple locations and timings of interviews across a range of city protests ensured a high likelihood of being able to collect and highlight diverse responses through the study.

The interviews were complemented by field observations in each context in order to gain a richly contextualised sense of the grounding for responses of particular protesters. Our aim was to collect evidence to formulate a picture of the protesters' knowledge, emotions, motivations, and actions in relation to climate change, and their key messages on the strike day. To do so, we asked protesters six questions in relation to: motivations to take action on the strike day; their knowledge about climate change; their emotions about climate change; any lifestyle changes the person had made; their history of participation in previous climate action; and what they were intending to do in the future. We also asked participants what the message on their banner or placard was (if they did not have a banner, we asked what the message on their banner would have been if they had one). Most interviews were conducted during the strike action, and many were 'mobile interviews' (e.g. Sheller and Urry, 2006; Finlay and Bowman, 2017) with researchers walking and talking with the protesters. This way protesters were not held back for too long for them to fully take action, and it also helped build rapport. This study required an efficient approach to interviewing in order to accommodate for issues such as weather conditions, moving crowds and noise from other protesters. Our interview questions were thus based on a structured interview approach where we did not ask follow-up questions.

The majority of the interviews conducted on the strike days lasted between 5-12 minutes, were digitally recorded, and transcribed verbatim. All respondents were given an opportunity to maintain anonymity, and transcripts were given a unique identifier (e.g. in Brighton BR-P1; London LO-P1; Montreal MO-P1; New Haven NH-P1; New York NYC-P1; Stavanger ST-P1). We also asked to take photos of respondents' banners and in most instances, respondents gave permission for the research team to use their picture for this research.

Table 1: Location of interviews and number of respondents

City and country	Number of respondents	Estimated number of people taking part in the protests	Respondent identifiers
Brighton, UK	11	5,000 - 7,000	BR-P1 – BR-P11
London, UK	13	100,000	LO-P1 – LO-P13
Montreal, Canada	10	500,000	MO-P1 – MO-P10
New Haven, USA	8	400	NH-P1 – NH-P8
New York, USA	12	315,000	NYC-P1 – NYC-P12
Stavanger, Norway	10	20	ST-P1 – ST-P10
Total	**64**		

Source: Authors

3.4. Data analysis

With our conceptual framework and data in place, the authors first read each other's transcripts to ensure an overview of the data, which we then revisited through each author's individual city case in order to create stronger links across the whole analysis. We then undertook analysis of our data following approaches in thematic qualitative analysis (Braun and Clarke, 2006; Savin-Baden and Howell Major, 2013). We initially coded interview transcripts individually, using a growing set of codes which were shared amongst the authoring team as each author completed coding. Based on this preliminary coding, we then generated tables in Microsoft Excel spreadsheets that included all codes identified in data from all six cities. We then combined and assembled codes under emerging themes, to organise our data into a common thematic structure. This yielded a total of 132 codes, which were regrouped into 57 themes under our six main interview topics (see Table 2 below).

Table 2: Codes and themes from data analysis

Conceptual dimension	Interview question topic	Number of codes	Number of themes
Cognitive	Knowledge about climate change	16	8
Affective	Motivations to strike	24	8
Affective	Emotions about climate change	37	12
Behavioural	Action in terms of lifestyle changes	28	16
Behavioural	Past climate change action	2	2
Behavioural	Future climate change action	25	11
	Total	**132**	**57**

Source: Authors

The interview data analysis was supplemented by iterative discussions and reflections both via remote video conferencing and through written correspondence amongst the authors to inform individual and collective analyses throughout this period.

3.5. Study limitations

We would like to acknowledge that our research approach has some limitations. Firstly, we designed our study so as to not collect socio-demographic details of our interviewees. This decision was made based on ethical and practical considerations. Protesting can be a sensitive issue and we did not want to intrude too much into personal circumstances. Nor did we want to "scare off" possible respondents or to have our interviews last an unduly long amount of time (given our respondents were actively in the middle of a strike or protest). Furthermore, the reality of interviewing during live protests meant that we had a limited time afforded by the circumstances for most interviews. Methodologically, we aimed to ensure a diverse set of respondents, but cannot meaningfully claim representativeness in our sample, given that the size of some protests was in the order of 300,000 people. Hence, we did not aim to make a quantitative, statistically representative study (e.g., a survey), but sought to examine the qualitative notions of randomly selected climate protesters (e.g., qualitative interviews). We would, however, welcome further research testing of our findings with a larger sample size or with more quantitative methods.

4. Results: The cognitive, affective, and behavioural dynamics of climate strikes

We present the results from our analysis within the three categories of our conceptual framework (e.g., cognitive, affective, and behavioural). For each category, we offer a headline summary of findings, and include tables that include various themes that emerged through coding. For each such theme, we indicate how many instances occurred across our 64 interviews (with percentages included in our data tables), and feature particularly relevant or revelatory quotes, specifying which cities these are sourced from.

4.1. Cognitive: Knowledge about climate change

Within the cognitive category, i.e. protesters' *knowledge* about climate change, we identified a total of eight themes, all centring on the level of knowledge protesters had about climate change and where they received their information from.

The level of knowledge protesters had about climate change ranged from respondents not knowing anything (N=3), to those wanting to know more (N=2), those saying it was difficult to avoid knowing about it (N=4), and those saying they knew too much (N=2). The majority of respondents (N=21) said that they knew quite a lot about climate change, while almost an equal number said that they knew a little bit about climate change (N=20). ST-P9 in Stavanger illustrated their high level of knowledge by saying: "*I think I know a lot about climate change, I am an economist and I work on the economy of energy transitions. I also worked a lot on public communication about climate change"*, while MO-P6 in Montreal represented the other end of the knowledge spectrum: *"I don't know enough and that's the problem".*

In terms of information sources, the most important were the protesters' own background or job (N=13) and reports produced by scientists (N=10), indicating potentially a high level of education and access to information amongst protesters. NH-P5 in New Haven

said how their own studies in environmental science had provided them knowledge about climate change:

"I studied environmental science so I know what impact it will have on ecosystems worldwide and what it will do to our food, whether that's how it'll impact the most marginalised communities and indigenous communities around the country more than it would the privileged people." (NH-P5)

Eight respondents mentioned media and TV as information sources, but while many said they had read about climate change from the media, others also doubted how much correct information there is in the media about climate change, as explained by MO-03 in Montreal: "*Actually I learned in my probability and statistics class that the way that [climate change is] being presented to the public that actually makes us in denial or it alters the way that we perceive climate change."* For others, seeing physical changes in nature (N=6) was the main source of information about climate change, as illustrated by MO-P4: *"I did get to go to the Arctic in 2013 and seeing the changes and talking to people about how lives have changes was really eye-opening for me."* Other sources of information included being part of a social movement and knowing about climate change that way (N=2) or the 'Greta effect' and following what Greta Thunberg was saying on climate change (N=1).

Table 3 shares some illustrative quotes for each of the eight themes in this category.

Table 3: Cognitive knowledge about climate change

Theme	Respondent	Illustrative quote	Total N*
Level of knowledge	ST-P9 Stavanger	*I think I know a lot about climate change, I am an economist and I work on the economy of energy transitions. I also worked a lot on public communication about climate change.*	52 (81%)
	LO-P4 London	*I don't know, some people say it's just a temporary thing. I don't really know.*	
	BR-P2 Brighton	*I feel like actually I know too much to know we're in a really grave situation and it's quite hard to hold that knowledge. When I think about it, it's an emotional response because of knowing how much we're hurting the Earth and how much our action is causing devastation to the planet and what that's going to do to our human species.*	
	MO-P1 Montreal	*To be honest, I should probably know more and I should probably do more research about it.*	
	MO-P6 Montreal	*I don't know enough and that's the problem.*	
	BR-P7 Brighton	*It's difficult to avoid anything about the climate crisis.*	
Pre-existing background or job	NH-P5 New Haven	*I studied environmental science so I know what impact it will have on ecosystems worldwide and what it will do to our food, whether that's how it'll impact the most marginalised communities and indigenous communities around the country more than it would the privileged people.*	13 (20%)
	LO-P3 London	*I work for an organization called the Environmental Investigation Agency, since at my work we have very holistic approach, I have learnt and campaigned about different issues, like forest campaigns, reforestation campaigns and anti-pollution campaigns.*	
Science reports	LO-P2 London	*I read all the IPCC reports, all the UN reports and all the big science reports that come out.*	10 (15%)

Media & TV	NYC-P9 New York	*Just what I read in the papers and try to educate myself about it.*	8 (12%)
	BR-03 Brighton	*To be honest with you, I actually don't know a lot of the statistics and probably have as much knowledge as a lot of people that are obviously into it. But I know enough to know that it is actually a serious thing and just being unaware because of how the lack of media that actually goes into showing climate change and talking about it.*	
	MO-03 Montreal	*Well actually I learned in my probability and statistics class that the way that that's being presented to the public that actually makes us in denial or it alters the way that we perceive climate change.*	
Seeing physical changes in nature	LO-P1 London	*I know that is definitely happening no matter what other people say about it. We can see so much about it with the weather and how climate is changing around the world. Catastrophes are happening all over the place.*	6 (9%)
	MO-P4 Montreal	*I did get to go to the Arctic in 2013 and seeing the changes and talking to people about how lives have changes was really eye-opening for me.*	
	BR-P5 Brighton	*I know what I see around me, and I see the degradation of nature everywhere around me.*	
	NYC-P11 New York	*I've noticed that the temperature is getting warmer, the highs and lows of temperatures – like during the winter, we have these really hot days and then we'll have these freezing days. It's become unstable.*	
Social movements	BR-P8 Brighton	*I've worked for 20 years in the environmental movement and we're very aware that we need a mass people powered movement to actually shift things much more radically, policy and public opinion and also people's culture, their attitudes and perceptions, their mind-sets.*	2 (3%)
Greta Thunberg effect	LO-P9 London	*All I know is from Greta.*	1 (1%)
Others	LO-P6 London	*I know that the climate crisis is definitely man-made, and the Earth is trying to self-correct.*	4 (6%)

*Sums may exceed 100% due to independent rounding.

While our questions prompted respondents to state how well-informed they were or not about climate change, their responses included reflections on not only knowledge sources about climate change, but also why they think that the climate crisis is perpetuated. So even though protesters saw themselves as more or less adequately informed about the facts of climate change, they also identified some of the structural factors that were causing the crisis and contributing to the way it was being handled, including issues such as the influence of global neo-liberal economics and inadequate media coverage.

4.2. Affective: Emotions about climate change and motivations to strike

Responses in the affective category included *emotions*, how protesters felt about climate change, and *motivations*, i.e. their reasons to take part in the climate strikes.

With our question on *emotions*, we wanted to explore what types of emotions people who were protesting had on the actual strike day. Emotional responses towards climate change were diverse, yet there were multiple descriptions that comprised over a dozen themes related to affective dimensions. Two of the most often mentioned emotion themes were respondents on one extreme feeling fear (N=23), but at the other end being hopeful

(N=23). Fear featured in many protesters' thoughts, with respondents saying that they felt for example afraid (N=10), scared (N=5), and threatened (N=5) by climate change. ST-P5 raised this specifically in relation to the future existence of humanity:

"I feel fear. That the whole system will collapse, millions if not billions will die in the process. I don't know if there will be a future or not. Research shows that there will be disaster. But it seems to be going faster than predictions which are already dire." (ST-5P)

Other emotions focused solely on more negative aspects, including being disempowered (N=15), anxiety (N=14), concern (N=14), anger (N=11) and despair (N=10). Protester NH-03 in New Haven summed some of these up in this manner:

"I get all hyped up. I'm mad! I get very angry because there is a lot going on in our government and in society today that is not okay and we as Americans are just idly sitting by and letting it happen. And so, you know, we're okay to get up and vote but we're not okay to speak for anything else, right? So that's what we need to do." (NH-P3)

Despite the gloom that the majority of respondents said they felt over climate change, there was also a great deal of hope (N=23). For instance, respondents said that they felt hopeful and/or comforted by taking action in the strike (N=10) and many said that they dealt with climate chance by taking action which made them feel better. NH-P4 in New Haven had hope about the possibility that future generations may find a solution to the climate crisis: "*Really positive, no, it's the pits. I put off having a child for a long time because I was very worried about the future. We only recently had a child. We had a child with hopes that maybe he would help this situation someday."*

Table 5 outlines themes within the emotions' category.

Table 4: Emotions about climate change

Theme	Respondent	Illustrative quote	Total N*
Fear	LO-P3 London	*I feel terrified, I think this issue is pretty serious.*	23 (35%)
	ST-P5 Stavanger	*I feel fear. That the whole system will collapse, millions if not billions will die in the process. I don't know if there will be a future or not. Research shows that there will be disaster. But it seems to be going faster than predictions which are already dire.*	
	BR-P3 Brighton	*I'm pretty sure within 11 years we can reach the point of no return, I think things like that just terrified me. What about myself, and my kids, and everyone else? I think it is well, if not the biggest issue.*	
	LO-P7 London	*For emotions, I am honestly scared. But not for me. The idea of 11 years is scary. By 2030, it will be too late to stay within 1.5 Degrees. My daughter will be 14 years old then. Our home won't be inhabitable, and after that, she cannot raise her children in a habitable planet, this feels incredibly scary and uncertain.*	

Hopeful	NH-P4 New Haven	*Really positive, no, it's the pits. I put off having a child for a long time because I was very worried about the future. We only recently had a child. We had a child with hopes that maybe he would help this situation someday.*	23 (35%)
	NYC-P8 New York	*I know the situation is bad. It's probably worse than what the scientists are saying, and it makes me feel eager to start doing something about it.*	
Disempowered	BR-P4 Brighton	*I feel angry, despair, disempowerment.*	15 (23%)
	LO-P3 London	*At the moment, people and even businesses are doing more than governments. But that is only because governments are letting us down very badly. So, our say is that governments need to take action.*	
Anxiety	BR	*It's for the first time in my life, I would say, I sometimes wake up at night and I lie there and I feel anxious about the immediate future and the long term.*	14 (21%)
Concern	ST-P2 Stavanger	*Makes me feel worried, also a bit sad, because there is just so much human stupidity, like Trump in America, deniers need so much proof now. There's no planet B.*	14 (21%)
	BR-P7 Brighton	*I feel deeply worried, and deeply worried in a way which I have not been politically before.*	
	NYC-P11 New York	*It worries me, what I really prefer, is that people stop calling it climate change. It sounds kind of benign. Instead of calling it what it really is, climate destabilisation.*	
Anger	NH-P3 New Haven	*I get all hyped up. I'm mad! I get very angry because there is a lot going on in our government and in society today that is not okay and we as Americans are just idly sitting by and letting it happen. And so, you know, we're okay to get up and vote but we're not okay to speak for anything else, right? So that's what we need to do.*	11 (17%)
Sadness	LO-P13 London	*I feel urgent, it is a matter of urgency. Today is uplifting, but it's sad as we need to act now or the future is doomed. It is so sad to sit and think about that, but amazing though to see so many people caring today.*	10 (15%)
	MO-P4 Montreal	*Pretty sad. Most days, if there is a lot of climate news, I probably feel pretty terrible hearing about glaciers melting and the hottest year on record year after year and those sorts of statistics really get me down. But I try not to stay depressed. I try to act on it, email my politicians and really sort of keep at it.*	
Despair	NYC-P3 New York	*I'm devastated but I also try to tell myself and these young kids, who are carrying this burden and this pain and sorrow and fear, that the anecdote to despair is action. That's how I treat myself and that's a message I try to spread out there.*	9 (14%)
Loss of hope	LO-P4 London	*I think we are pretty fucked. I think it is pretty severe at this point. I also work with refugees and it is going to get worse and worse. Everything is going to turn worse.*	5 (7%)
No emotions	MO-P5 Montreal	*Not entirely surprised. It makes sense. We're assholes.*	4 (6%)
Strong	LO-P11 London	*Despite that, despite the fear, I feel strong. There is power in coming together today.*	3 (4%)
Others	NYC-P4 New York	*I'm a speaker on environmental policies and also chemicals and pollution so I know what's going on.it makes me feel like I have to speak*	5 (7%)

		and get it out there to others. So, I need to share that information, which is what I do.	

*Sums may exceed 100% due to independent rounding.

While concern for the future was a ubiquitous response among strikers across the six cities, there were differences between how strikers affectively responded to the climate crisis. Within North American cities, strikers were more likely to identify that they were "terrified" or felt "threatened" (N=10) whereas British strikers were more likely to indicate that they were "hopeful" (N=6) about taking action. Interestingly, the majority of those who identified a lack of action underpinning their affective engagement with climate crisis were more likely to be from the USA. This may reflect the lack of action and political leadership the Trump Administration has taken to address climate change and repealing pro-enviromental legislation. Our results indicate that while protesters predominantly had negative feelings such as fear, anxiety and despair at the impacts that correspond with the climate crisis, responses to address climate change and collective action provided protesters with hope for the future.

Responses in relation to protesters *motivations* for participating in the climate strike fell under eight broad themes relating to: concern for the planet, environment and climate; wanting to influence public opinion and policy; concern for family and future generations; being part of a protest movement; solidarity; anti-capitalism; security; and other related factors such as protesters coming for related events and deciding to stay for the strike.

Concern for the planet, environment and climate was the most often mentioned (N=60) theme that had motivated most participants to take strike action. For example, this was explained very clearly by NYC-P9 in New York: "*We want action taken for the planet. We need to transform our society as soon as possible.*" Wanting to influence public opinion and policy was the second most mentioned motivation (N=48), which was especially prevalent amongst protesters in Brighton. BR-P2 explained this in more detail:

"Regardless all the actions we do to benefit the environment, we are just a drop in the ocean compared to the change that needs to be happening. Change that needs to be happening on a worldwide level with government investing in reducing carbon emissions and re-wilding. We believe it's really important for large-scale change to happen amongst government… The more people come out to strike today and to show there is an appetite for change, the more there is a drive for politicians to make changes." (BR-P2)

Concern for family and future generations featured strongly in several protesters' minds (N=26). Respondent BR-P4 in Brighton highlighted: "*I'm concerned about the future. I've got two children and I worry about the impact of climate change on their life, my life, and on everyone's lives*." Many parents had come to the strikes with their children, showing genuine concern for their future through their banner messages (see Figure 1). Protesters also extended solidarity to the youth climate strikers as well as to those who may be vulnerable or living in, e.g., indigenous communities (N=14), as LO-P11 indicated: "*We are very focused on climate justice, we are very aware of the Global South, we stand with solidarity with all mothers around the world."* Figure 2 shows many strikers in our six cities.

Figure 2: Climate strikers in London, Brighton, New York, and Montreal

Image source: Authors

Being part of a protest movement was important to many (N=20), even though for some it was only about impressing a girlfriend (LO-P12) and doing something for the sake of it: "*I don't think climate change is the most important thing, which people would disagree with quite a lot. So, I'm not really here because of that. It's more of a novelty thing, you know, get stoned and go to a protest, cross it off the bucket list".* (MO-P5). For many others, however, taking part in the strike was about being able to feel like they were participating in much needed change, rather than just sitting back and letting climate change happen (e.g. BR-P3). Less often mentioned motivations included anti-capitalism (N=7), and national/global security issues (N=3). Table 4 illustrates themes relating to motivations in more detail.

Table 5: Motivations to strike

Theme	Respondent	Illustrative quote	Total N*
Concern for the planet, environment and climate	LO-P9 London	*I am striking today because in 10 years' time we begin an irreversible chain reaction that ends human existence as we know it, unless we do something about it.*	60 (93%)
	NYC-P9 New York	*We want action taken for the planet. We need to transform our society as soon as possible.*	
	ST-P7 Stavanger	*I think all the days about why don't we do another way with our lives. That is why I paddled to Norway from Germany.*	
To influence public opinion and policy	LO-P3 London	*We are striking to stand up against climate change, trying to get governments to start implementing policies. They are {governments} letting us down very badly, so we are here, today, to demand action from them, trying to make a difference, trying to improve our future, trying to be heard.*	48 (75%)
Concern for family and future generations	MO-P3 Montreal	*I'm concerned about my future. I'm not sure that I'm going to have one and I don't think that the governments we currently have in place are doing enough about it so I'm not going to school.*	26 (40%)
	BR-P4 Brighton	*I'm concerned about the future. I've got two children and I worry about the impact of climate change on their life, my life, and on everyone's lives.*	

Be part of a protest movement	MO-P5 Montreal	*Honestly, it's a shitty answer. I don't think climate change is the most important thing, which people would disagree with quite a lot. So, I'm not really here because of that. It's more of a novelty thing, you know, get stoned and go to a protest, cross it off the bucket list. I think I have postponed doing a lot so I made this sign.*	20 (31%)
	BR-P3 Brighton	*I want to be able to feel like I'm participating in the change and try to make a difference with everyone else. I don't want to just sit back and watch climate change happening.*	
Solidarity	LO-P11 London	*We are very focused on climate justice, we are very aware of the Global South, we stand with solidarity with all mothers around the world.*	14 (21%)
	NYC-P4 New York	*I am striking today in support of my son and beliefs and the climate crisis and what's going on. But primarily to be here with him and allow him a place where he can have his voice be heard.*	
	NYC-P9 New York	*I'm here with my daughter and a whole bunch of her high school friends supporting the youth movement. It's going to be their generation that's going to deal with the inevitability of the planet dying and I'm just here to support them.*	
	ST-P4 Stavanger	*So, I think it's a good idea, something has to be done fast, so anything, so just getting people together or doing anything we can do is good, and this is I think the only event in Stavanger, unfortunately.*	
Anti-capitalism	MO-P10 Montreal	*Worst of all is that there are companies that profit from destroying the planet and destroying our home. I really do think that we have to stop capitalism before it is too late and we don't have a future. That's really worrying because it threatens our way of life.*	5 (7%)
	BR-P7 Brighton	*I'm angry, like Greta, at capitalism. At aggressive industrialisation, at aggressive outsourcing of work to developing countries.*	
Security	NH-P1 New Haven	*I think climate change is the largest threat to our national security and I think it's about time we stand up and demand that our politicians and our adults do what they are supposed to do which is protect us.*	3 (4%)
	NYC- P3 New York	*I'm a US military veteran and my understanding, when I go out to speak publicly, I take it from a front that we are now in the age of consequences where it's a global and national security issue that affects all parts of the globe. From a US standpoint, our own US national security. So, its effects migration. Migration is going to continue. Scarcity of food, scarcity of water. It will accelerate to instability and violence. So, I'm here to create peace.*	
Others	LO-P12 London	*Honestly, I am striking to get laid. I am here for my girlfriend. It's nothing special.*	6 (9%)

*Sums may exceed 100% due to independent rounding.

Overall, motivations for climate strike participation amongst our participants were not solely about environmental concerns or climate change in and of itself. They also included wanting to influence those with power to make structural and systemic changes to unsustainable societies, and concerns that individuals had over the impacts that a climate breakdown may have on immediate family members, on those living further afield, and on human existence as a whole.

4.3. Behavioural: Past and future climate change action

Under the behavioural category, we report results on climate *action* along three lines: participation in climate protests, lifestyle changes, and intended future action. This distinction

recognises that action by climate protesters can mean many things, hence we posed questions specifically on these matters.

In terms of participation, we asked respondents whether they had taken climate action before or not. 34 respondents had participated in previous climate action, while for 28 respondents it was their first climate strike (two respondents omitted this question). For example, MO-P3 in Montreal said how their previous action had motivated them to take action again: "*Yes I have. I went to a climate march in Berlin. It was a chance march but I was really glad that I was there and it motivated me to come to this one." (MO-P3)*. Many respondents also said that they had joined groups such as Extinction Rebellion and had taken part in their previous climate protests. What was clearly evident from our data was the spread in terms of how long people have been involved in climate action. There were many "climate veterans" amongst our respondents, but also many recently activated, as explained by LO-P3 in London: "*I have been a climate change campaigner for 12 years and I have seen it escalating."* (LO-P3).

Table 6: Participation in climate strikes

Theme	Respondent	Illustrative quote	Total N*
Has participated previously	MO-P3 Montreal	*Yes, I have. I went to a climate march in Berlin. It was a chance march but I was really glad that I was there and it motivated me to come to this one.*	34 (53%)
	LO-R8 London	*This is the third climate strike she is been on [her daughter]. But this is the first time a strike is meant to be for kids.*	
Has not participated previously	MO-P1 Montreal	*This is probably the first biggest one, protesting today is probably the biggest one that I'm doing. I'm so happy to be here because it's such an interesting energy.*	28 (43%)

*Sums may exceed 100% due to independent rounding.

As per the category of action, these were divided into changes that respondents had made in their lifestyle due to climate change and any future action they were planning on taking.

In terms of changes to lifestyle, out of the 16 themes that emerged, people had most often made changes to their modes of transport (N=42) and diet (N=36). As for transport, many mentioned having reduced or given up flying (N=16), while others had swapped their cars for cycling (N=12) or public transport (N=11). LO-P10 in London was one of those who had reduced flying for example: "*Nearly everyone from our group is not flying, and in 2020 we have pledged not to fly at all"* and NH-P5 in New Haven had given up their car: "*I stopped using a car and I'm planning on using only boat transportation".* A few respondents (N=3) also mentioned using an electric vehicle.

As for diets, most respondents mentioning diet had reduced meat consumption and adopted either a vegetarian or vegan diet. Many protesters had also followed a vegetarian diet for some time, as LO-P9 in London showed: "*I was vegetarian beforehand, before I was woke, I thank fuck I am a veggie, but to be honest I did that before climate change".*

After transport and diet, most responses to lifestyle changes centred on recycling/reusing (N=21) and reducing consumption (N=20), as highlighted by NYC-P6 in New York: "*I'm doing a lot in the reduce, reuse and recycle area. We do not need a lot of things."*. Seventeen respondents said that they had not had to change their lifestyles much as they had

already been living a green or sustainable lifestyle. Energy in the home was another mentioned lifestyle change (N=11), with people saying they had sustainable energy systems in the home (e.g. ST-P8) or that they used renewable energy suppliers (e.g. NYC-P7). Also, reducing water was mentioned by a few respondents (N=3). Eight people said they had started composting. One of the most radical changes were people changing their working patterns, either by reducing working hours or undertaking more volunteer work. For example, ST-P3 in Stavanger talked about this as follows: "*Changes in my life are in my work, everything I talked about I tried to implement, to consciously find strategies to move beyond neoliberal principles, and based on respect for people around us and for our planet".*

Other lifestyle changes included thinking about fashion and clothing and reducing the number of clothing people buy (e.g. LO-P7). Respondents also mentioned that they had started to shop locally (N=6) to support the local economy and local jobs, or were in general supporting more sustainable consumption (N=4). Some had decided to take more climate action (N=2), pressure corporations (N=2) and study (N=1). Only three respondents said that they had not undertaken any lifestyle changes to tackle climate change.

Additionally, there were spatial differences between lifestyle changes. North American strikers were more likely to indicate that they would reduce personal car use or take public transport (81% of total responses). This is a surprising finding given the reliance on private car ownership in the U.S. and Canada alongside a continued lack of public transport infrastructural investment in these countries. However, it should be noted that these strikes took place in cities with relatively respectable public transport networks in place. With respect to other transport changes, British and Norwegian respondents were more likely to state that they would reduce flying (80% of responses). The full list of lifestyle changes is in Table 7 below.

Table 7: Changes to lifestyle

Theme	Respondent	Illustrative quote	Total N*
Transport	LO-P10 London	*Yes, we are. Nearly everyone from our group is not flying, and in 2020 we have pledged not to fly at all.*	42 (65%)
	NH-P5 New Haven	*Yes, I stopped using a car and I'm planning on using only boat transportation.*	
	BR-P3 Brighton	*We got rid of our car in September. We don't have a car anymore. if we do ever need a car, we just use hire cars and that will probably be a less polluting vehicle then if we'd bought a slightly older, second-hand vehicle.*	
	NYC-P10 New York	*I don't own a car, I'm hardly ever in a car and I haven't owned a car since 1981. I bicycle everywhere. I just did a 650-mile bike trip in upstate New York for my vacation so that I could have the longest possible carbon footprint, I camped on that. So, I try to live as carbon neutral as I can.*	
Food / diet	LO-P9 London	*I was vegetarian beforehand, before I was woke, I thank fuck I am a veggie, but to be honest I did that before climate change*.	36 (56%)
Recycling / reusing	NYC-P6 New York	*I'm doing a lot in the reduce, reuse and recycle area. We do not need a lot of things.*	21 (32%)
Reduce consumption	MO-P6 Montreal	*I've been trying to reduce my waste, not zero waste by any means but I'm trying to reduce it. That one is really important to me.*	20 (31%)
Already 'green' living	LO-P5 London	*Radical is probably not the right word. I am a fan of how small changes build up over time. So, if you were to take how I behaved 10 years ago to how I*	17 (26%)

		behave now, you would probably say it is radical, I think it is much easier to do lots of small things to reduce our carbon footprint than radical changes overnight.	
Energy	ST-P8 Stavanger	*We have a very sustainable energy system for the house.*	11 (17%)
	NYC-P7 New York	*My utility bill for gas and electricity is now with ClearChoice Energy [Utility Company] and there's hopefully 99% wind power just for electricity and 1% thermal power. So, I'm really trying.*	
Compost	MO-P1 Montreal	*Last year I was trying to compost in our apartment so we would put our compost in a bucket. I think you have to pay for compost in Montreal but we would just be to the university.*	8 (12%)
Changes to work	NH-P4 New Haven	*I make a lot of art out of garbage that I collect from parks and beaches and I turn them into sculptures. So, I try to all around think about how I gather by materials.*	7 (10%)
	ST-P3 Stavanger	*Changes in my life are in my work, everything I talked about I tried to implement, to consciously find strategies to move beyond neoliberal principles, and based on respect for people around us and for our planet. When it comes to production I try to produce sustainably when it comes to design, to not compromise on some fundamentals, to apply a way of thinking that is complex.*	
Fashion / clothing	LO-P7 London	*Yes, I am a performer mainly, so the customs are a big part of my life and I made a vow last year to not buy a single piece of new clothing and I haven't. I can only buy recycle and second hand.*	6 (9%)
Support local economy	LO-P2 London	*I buy almost most of our food from the farmers market or get it from local producers so hardly any packaging.*	6 (9%)
Sustainable consumption	BR-P2 Brighton	*We have reusable nappies, have a vegan diet, we compost, we have an organic veg box. We're scaling up, doing what we can do. But we know that that is a drop in the ocean compared to the change that needs to be happening.*	4 (6%)
	LO-P13 London	*I make my lifestyle as sustainable as I can.*	
Water	MO-R9 Montreal	*In my house we don't use as much water or energy.*	3 (4%)
No action	LO-P6 London	*I haven't done any changes, I have just been trying to do the right things.*	3 (4%)
Climate action	NYC-P7 New York	*I ty to understand more about this issue and demonstrate like I am doing here today.*	2 (3%)
Pressure corporations / people	NYC-P11 New York	*I also talk politics as much as I can to people around me to convince them to vote.*	2 (3%)
Study	NYC-P1 New York City	*My lifestyle changes have mostly been in terms of what I've decided to study and what I've decided to work in. So, all the jobs I've had have been in some way related to my interest in sustainability and my studies have been related to that. So, there's been a mix of radical changes.*	1 (1%)

759 *Sums may exceed 100% due to independent rounding.

760

In addition to lifestyles changes that people had already undertaken, we also asked what future action they were considering taking to address climate change and these responses fell under 11 themes. The majority of our respondents were keen to take action with the top three including more climate action (N=32), demanding action (N=29) and political activism (N=19). Those considering more climate action were especially keen to take part in more strike action and demonstrations. In terms of demanding action from others, LO-P10 in London for example explained how their plan included to focus this on large polluters like oil companies:

"Next Monday we are doing a climate rhyme protest, standing outside Shell at 8:00, we will bring two giant pushchairs, taller than a man, but they will be empty to symbolize the uncertainty of our future. We have worked on nursery rhymes we will chant, to focus on the villainy fossil fuel industry." (LO-P10)

In similar vein, one protester in Stavanger (ST-P9) specifically aimed to demand change from within industry. Five respondents said that they were going to use social media as their next action, as indicated by MO-P4 in Montreal: "*I help to harass by elected officials. Send them gentle emails, poke them on Twitter and Instagram and just remind them that this isn't a PR campaign. This is here for them to act."*

As for political activism, protesters in Brighton for example said that they had been working with both local and national politicians (e.g. BR-P6 and BR-P7), while in the USA there was a clear focus on the forthcoming 2020 presidential elections. For example, NH-P6 in New Haven said that they were continuing to organise "*around a left-wing message, particularly around Bernie Sanders electorally.",* and NYC-P10 in New York echoed participation in political action: "*I decided this year, in comparison to 2016 that I want to get involved early in the elections so I'm working really hard to support Elizabeth Warren for the democratic nomination and to get rid of Mitch McConnell."*.

Many protesters (N=15) responded with details of immediate action following the strikes, and these ranged from enjoying the rest of the day to having lunch, going home and having a nap. Many (N=12) also mentioned again that their future action involved taking some of the lifestyle changes examined in Table 6 above.

Several of the protesters (N=14) were keen to raise awareness of climate change by talking to others. Education was mentioned by ten respondents, either by educating themselves more on climate change or arranging this for others, as exampled by NYC-P5 in New York: *I'm starting a climate club at my son's school and I think that education is key, continually educating our kids*."

There were also a small number of protesters (N=7) who said that they were not going to take future action, while some respondents did not know whether they were going to take any (N=4). MO-P5 in Montreal illustrated this point: "*Are you serious? Fuck. Okay, smoke the rest of this joint, pop a Xanax, drink a beer and go to bed."*

Overall, North Americans were more likely to indicate that future actions were focused around education (70% of responses) while respondents from all cities indicated that demanding more change was vital. Interestingly, the majority who indicated further political engagement/activism and working with local MPs were more likely to be US climate strikers (71% of responses). This may be related to the spatial distinction indicated earlier around the lack of action at the federal level in the US. However, British respondents were more likely to suggest that participating in future climate action and/or another strike was central to next

behavioural engagements (40% of responses). Table 8 below outlines the key themes on future climate action.

Table 8: Intended future climate action after the strike

Theme	Respondent	Illustrative quote	Total N*
Climate action	NH-P1 New Haven	*I am intending to keep up with 'Fridays for Future' and Future Coalition and other strike organisations to see what I can do to continue to help.*	32 (50%)
Demand action	LO-P10 London	*Next Monday we are doing a climate rhyme protest, standing outside Shell at 800, we will bring two giant pushchairs, taller than a man, but they will be empty to symbolize the uncertainty of our future. We have worked on nursery rhymes we will chant, to focus on the villainy fossil fuel industry.*	29 (45%)
Political activism	NH-P6 New Haven	*Continue organising around a left-wing message, particularly around Bernie Sanders electorally.*	19 (29%)
	NYC-P10 New York	*I decided this year, in comparison to 2016 that I want to get involved early in the elections so I'm working really hard to support Elizabeth Warren for the democratic nomination and to get rid of Mitch McConnell. You know, I really feel like we have to address it on all fronts.*	
	NYC-P9 New York	*Pray that our elections go well in America. And that Mitch McConnell and Trump go out because otherwise it's freaking hopeless, it's terrifying!*	
Immediate action after strike	LO-P6 London	*I am planning to enjoy this beautiful day. And enjoy it because there is still beauty in our world and I am planning to enjoy it.*	15 (23%)
Raise awareness	LO-P10 London	*We really try to turn our fear into action, we find comfort in acting, we find comfort in having the community, we have 4000 followers on Instagram and Facebook, and we find comfort in likeminded people willing to take action.*	14 (21%)
Lifestyle changes	BR-P11 Brighton	*I'm trying to be more sustainable and have the least impact I can.*	12 (18%)
Education	NH-P3 New Haven	*Really just keep myself more educated on what's going on.*	10 (15%)
	NYC-P5 New York	*I'm starting a climate club at my son's school and I think that education is key, continually educating our kids*.	
No action	MO-P5 Montreal	*Are you serious? Fuck. Okay, smoke the rest of this joint, pop a Xanax, drink a beer and go to bed.*	7 (10%)
Social media	MO-P4 Montreal	*I help to harass by elected officials. Send them gentle emails, poke them on twitter and Instagram and just remind them that this isn't a PR campaign. This is here for them to act.*	5 (7%)
Don't know	MO-P10 Montreal	*I don't know, man. I think I just need to eat, relax and continue to resist and fight.*	4 (6%)

Pressure industry	ST-P9 Stavanger	*I would like to go into the industry to try and influence things from the hub of the system. From the outside, I think it is hard to change things.*	1 (1%)

*Sums may exceed 100% due to independent rounding.

Our data show that climate strikers included almost in equal numbers both new comers and those who had participated in climate action before. It was clear that climate action in 2019 had spread extensively, as witnessed by some of the more long-term activists. In addition to striking and demonstrating, the majority of the protesters were also committed to other action—both by having already made lifestyles changes, like reducing flying or car use and changing to vegetarian diets, and by intending to take future action like keeping climate action going, demanding change from others, and getting involved in political activism, education and awareness raising.

5. Discussion: Patterns of variation, opportunism, and values in climate activism

In this section, we discuss our findings around three core themes of variation, opportunism, and values. These emerged inductively during our data analysis, and were created recursively as we coded our results. They constitute key insights into "the social and political effects of this movement — how individuals are participating now, what it will mean for them over their lives and the political outcomes of their activism" (Fisher, 2019: 431). We reflect on how climate strikers experience and communicate their concerns and on what constituencies they attempt to connect with. Thus, we discuss both the drivers of public engagement with sustainability as well as the embodied manifestation of socio-political mobilisation in the form of climate strikers.

5.1. Patterns of variation

Our results on the cognitive, affective, and behavioural dynamics (e.g. Whitmarsh and O'Neill, 2011; Wolf and Moser, 2011; Axon, 2016) of climate strikes indicate that climate strikers are not confined to a particular type of person. Rather, there is a large spectrum in terms of how equipped people are in terms of knowledge about climate change, what emotions they feel about the climate crisis, what motivates them to take action, and what types of action they have taken, are currently taking, or considering to take.

Most protesters felt that they knew at least something about climate change and why it requires urgent action. They encompassed varied groups with diverse motivations, both across the urban contexts of the somewhat similar cities we studied, as well as among same-city protesters. While many expressed emotions of being afraid, angry or frustrated about climate change, hardly any accounts of how people cope with these emotions emerged that point to systemic efforts by formal institutions to help people deal with their 'climate anxiety' or "climate rage". Instead, many said that taking action such as being part of climate strikes made them feel hopeful and comforted that they were doing something and not just letting things happen to them, future generations and the planet as a whole. For example, Morris et al. (2019) have suggested using narratives and stories as means of better engaging people in climate change, while Tschötschel et al. (2020) have found that reporting about climate change does not (yet) have global unity, but rather that stories are discussed at the national scale.

Many of our respondents were keen to make lifestyle changes, and many had already taken action to do so. But there were also many who found that structural and systemic factors were limiting their ability to bring about meaningful and major changes (e.g., having to fly to visit family or not being able to afford alternatives). Instead, many were trying to make smaller differences that they found feasible (e.g., recycling, sorting waste and reducing consumption). Some protesters mentioned symbolically potent changes (e.g., reducing meat and choosing a vegetarian diet, consciously limiting travel, or sourcing cleaner energy), while others said they were willing to try to do more (e.g. stopping air and car travel, living in smaller housing, or changing working patterns).

From this variation, a sub-culture of identities overlapping with the strikes emerged, and we identified seven categories of different types of climate protesters (see Figure 3). *Frontline protesters* were really concerned about climate change, trying to catalyse systemic change. They were often the most knowledgeable about climate change and had dedicated time and effort to take previous climate action. *Responsible protesters* were those making doable changes in own life often at some cost to oneself. *Inactivated or latent protesters* were starting to get involved but were not quite sure of the extent to which this would impact their own life and actions. *Disengaged protesters* were there for a friend or other social interest rather than for the protest itself, and might not have seen it as a meaningful mode of engagement even if they acknowledged that climate change is a problem. *Opportunistic protesters* were concerned about ways that involvement in protest can productively overlap with other personal interests, such as getting jobs or a better social media profile. *Parallel protesters* were active in addressing climate change in their professional life and were present at the protest mainly to show solidarity or out of interest rather than as their main form of engagement. Finally, *sceptical protesters* were not really convinced that protesting makes sense, but they were there by chance or for the spectacle. These are intersecting and dynamic, not discrete, categories.

Figure 3: Towards a typology of climate protesters

 *Frontline protesters*	Focused on catalyzing transformative climate action across society
 *Responsible protesters*	Dedicated to making lifestyle changes to cut personal carbon footprints
 *Latent protesters*	Previously inactivated protestors more ambivalent or unsure of future climate actions
 *Disengaged protesters*	There only for others such as a friend, family member or partner
 *Opportunistic protesters*	Present to capture other social benefits to striking e.g. social media fame or glamour
 *Parallel protesters*	Protesting to show solidarity with others or to validate their professional expertise
 *Sceptical protesters*	Wary of climate change but there to enjoy the fun or spectacle of the strike

Source: Authors

While it may seem self-evident to say that there is enormous variation in the cognitive, affective, and behavioural aspects of climate protest, we argue that our multi-sited and place-based insight into the *patterns* of such variation is novel and generative for future research. Understanding protester identities as frontline, responsible, inactivated/latent, opportunistic, disengaged, parallel and/or sceptical can inform analyses of the modalities of participation, and in turn what – if any – constituencies their climate activism is likely to generate. In a world where social media analytics harvest and deploy big data to shape public opinion (e.g. Cambridge Analytica in the USA 2016 elections) (cf. Sareen et al. 2020), these identities demonstrably matter.

5.2. Opportunism

Although the strikes were clearly framed around climate change, we also observed, often directly, the use of climate change and the strikes as a platform to advance other interests. At the London strike, for example, three of the more liberal and progressive political parties — the Liberal Democrats, Labour, and the Green Party — used the strike to critique and attack each other (and other political parties), each of them setting up booths and distributing pamphlets and flyers. Somewhat ironically, or fortuitously (depending on perspective), other social groups were there to critique the political parties, especially those identifying as "Socialists" or "Marxists". Other groups sought to use the spotlight to raise awareness about a slew of important but non-climate issues, such as one group of strikers marching for human rights in Oman, two other groups against "war", and more than a few against UK Prime Minister Boris Johnson ("More Forest, Less Boris" was seen on a placard) or US President Donald Trump.

Relatedly, the strikes are opportunistic in a second sense: not everyone has the capacity to strike. This begs the question of access and who can access a strike. On the one hand, access is physically easy for those in, or close to, a city, given that the global climate strike took place in so many cities including some smaller ones, and events were free to attend. On the other hand, not everyone can afford to strike and take time off work, which means that representation biases are inherent to such forms of social mobilization. Our data show that some respondents were able to take the day off work or leave their university to attend a strike, yet we are unable to ascertain the number of individuals who wanted to strike but were unable to.

Connected on this theme, a third type of opportunism was on display: using the strike not only as a way to protest or raise awareness, but as an opportunity to have *fun.* For example, at the London climate strike there was a sit-in, a cook-off, a choir singing climate change songs and a breast-feeding for climate session. We even observed a transgender protester talking about hot dates, alongside non-human protesters (notably, dogs) protesting next to people, as shown in Figure 4. This type of opportunism can in some cases be read as a conscious strategy to link caring for the climate with other positive experiences rather than simply a gloom-and-doom narrative, and as self-care by protesters who are taking time off to strike for the climate in perhaps quite busy schedules. Thus, the "fun" type of opportunism can range from trivial and care-free to considered, strategic, and care-related.

Figure 4: Opportunism and fun at the London climate strike

a. A canine protester

b. The "Raised Voices" choir

c. A silent sit-in near Parliament

d. The "Music Strike for Climate"

Image source: Authors

Vitally, this insight into the opportunistic aspects of climate protest brings to the fore the risk of structural exclusion in representation due to socio-spatial and other characteristics (cf. Hall et al., 2011). We are reminded of Fisher's argument from a decade ago that "the massive expansion of civil society participation at Copenhagen was not only accompanied by civil society disenfranchisement, it actually contributed to it" (Fisher, 2010: 11). Our findings reveal some similar risks at the present moment for these distinct reasons: climate activism has swelled and is not as much at risk of being shunned, but rather of becoming normalised as a phenomenon that reflects entrenched societal practices. On the one hand, this is a positive development in that it can broaden political constituencies for the environmental movement (e.g., enrolling those who join for the fun); on the other hand, it can dilute the core of the movement and enhance inequitable practices (e.g. excluding the climate concerns of those who live in censorial societies).

5.3. Values

In terms of examining the fundamental values behind why people strike (or indeed do what they do), previous work from environmental psychology and sociology on general values, or on goals in life worth achieving, is revealing (De Groot and Steg, 2007; De Groot and Steg, 2008; Steg et al., 2014). This body of work suggests that most behaviour, especially in the domain of pro-environmental intentions and actions such as striking or protesting, cuts

across four fundamental types of values. The first two categories of values are not even about helping individuals or notions of self. *Altruistic values*, such as equality, equity, peace, justice, and helpfulness, are rooted in helping others. Here, an example would be the mothers we spoke with who were striking on behalf of their children; a young woman doing so specifically to convince men (e.g., taking an active stance against patriarchy); or those striking in solidarity for vulnerable populations or future generations threated by climate change. *Biospheric values*, such as respecting the earth, unity with nature, environmental protection, and preventing pollution, are about helping the earth. Here, we see strikers acting on behalf of and in solidarity with forests, animals, non-human others and the biosphere itself.

By contrast, the other two categories of values are about self-enhancement. *Egoistic values* such as social power, wealth, authority, influence, and ambition, are about making oneself better off. We spoke with many young adults, for example, who stated that they were striking in order to preserve their own future. *Hedonic values* such as pleasure, enjoying life, and gratification for oneself, are about enhancing one's own comfort or happiness. Here, a notable example is a young man we met who was striking for his girlfriend (hoping to impress her with romantic intent for later in the day, or in his own words, to "get laid").

6. Conclusion and future research directions

Our study which examined climate strikers in six different cities in four different countries in September 2019 found perhaps unsurprisingly large variation across climate strikers, and that people are driven to protest by a range of values. Yet being explicitly aware of the patterns within this variety in motivations and values seems like a crucial element to any informed discourse about phenomena such as climate strike action, which we even approached as attached to specific behavioural aspects such as past and future actions regarding climate action. As predicted by our framework, motivations to strike cut across cognitive, affective, and behavioural dimensions.

In terms of cognitive knowledge, a surprising number of our strikers were not very aware about climate change; with some even stated that they had no knowledge and were merely striking to impress others (such as a romantic partner) or to give a friend company. Equally interestingly, stated sources of credible information about climate change ranged from documentaries and films (a fairly credible source) to blogs and tabloids (less credible) as well as scientific reports (more credible).

In terms of affective emotions, the range connected with climate change was shockingly large, running the whole gamut from positive feelings of hope and strength to negative ones of fear, despair, and anxiety. Motivations to strike were diverse as well, spanning reasons such as doing it for the children or family; for solidarity with youth more generally, future generations, and vulnerable groups; or even impressing partners.

In terms of behaviour and actions, strikers mentioned a range of incremental actions (for instance, recycling and switching to more efficient lightbulbs are increasingly discussed responses in public discourse) but also impressively higher-impact actions such as reducing energy, car, and water consumption, not eating (imported) red meats, flying less, sustainability swaps, and giving up shopping. Despite this diversity of sources of knowledge, emotions, motivations, and actions, we do not see sufficient awareness of this in current discussions and academic discourse on climate strikes and climate strikers.

The questions we pose for future research to address are thus: Do the cognitive, affective and behavioural aspects we witnessed in the cities of Brighton, London, Montreal,

New York, New Haven and Stavanger also hold true in other contexts? What do the patterns we identify at the present moment of climate protests imply for the identity and effectiveness of the growing environmental movement? We would encourage further research in this regard in cities especially in the Global South or those that are less industrialised. We also need further research on who is, and is not, able to take part in climate change action and how issues such as class or education may come into play. Furthermore, while climate change is spurring people to take action, further research on the longer-term impacts of that action would be welcome, to see whether behavioural changes such as reducing flying, switching to public transport and eating less meat (e.g. Kim et al., 2020 have started to explore the climate impacts of diets) have longevity and impact (cf. Grandin and Sareen, 2020).

Indeed, it may be the case that extant scholarship does not anticipate the utter diversity of knowledge, emotions, motivations and modes of engagement of protest that the current climate change movement is bringing forward. Groups such as transgender people, retired grandparents, career-switching professionals, and even non-humans such as canines, to name a few, are part of this expressive and emotive space; they are perhaps drawn to it for distinct reasons, and constitutive of it in ways that must necessarily be understood if we are to characterise these movements in truly intersectional ways. Participation in climate protests is an act of temporal place-making as transient protest in a specific place attempts to disrupt the status quo to raise awareness among those not striking. Yet, participation is also an act of identity formation with more enduring temporality in the minds of individual protesters that embodies specific behavioural engagement within climate action and is reinforced in public space with other like-minded individuals and groups.

The climate strikes encapsulate both a dynamic moment of flux coupled with a concurrent encrusting of emergent identities. The nature of these changes to climate agency and structure in how various publics relate with, shape and are reflexively shaped by engagement with climate protest, will to some extent determine future societal appetite for ambitious climate action. In this regard, we hope that our study is a useful starting point, rather than an endpoint, to more dynamic, reflective, and socially important research on the future of climate protests.

7. References

Axon, S. (2016) "The Good Life": Engaging the public with community-based carbon reduction strategies. Environmental Science and Policy, 66, 82-92.

Axon, S. (2017) "Keeping the ball rolling": Addressing the enablers of, and barriers to, sustainable lifestyles. Journal of Environmental Psychology, 52, 11-25.

Axon, S. (2020) The socio-cultural dimensions of community-based sustainability: Implications for transformational change. Journal of Cleaner Production, 266, 121933.

BBC News. (2019) Climate Change: Firms make green energy vows as call for action grow. September 20. Online: https://www.bbc.co.uk/news/business-49764957 [Accessed 29.10.2019].

Bebbington, A., Fash, B., Rogan, J. (2018) Socio-environmental Conflict, Political Settlements, and Mining Governance: A Cross-Border Comparison, El Salvador and Honduras. Latin American Perspectives, 46, 84-106.

Blondeel, M. (2019) Taking away a "social licence": Neo-Gramscian perspectives on an international fossil fuel divestment norm. Global Transitions, 1, 200-209.

1044 Braun, V., Clarke, V. (2006) Using thematic analysis in psychology, Qualitative Research
1045 in Psychology, 3, 77-101.
1046 Brooke, S. (2019) Brighton climate strike LIVE: 7,000 activists protest for 'biggest climate strike
1047 yet'. Online: https://www.theargus.co.uk/news/17916073.brighton-climate-strike-live-
1048 7-000-activists-protest-biggest-climate-strike-yet/ [Accessed 25.10.2019].
1049 Brown, K., Adger, W. N., Devine-Wright, P., Anderies, J. M., Barr, S., Bousquet, F., Butler, C.,
1050 Evans, L., Marshall, N. and Quinn, T. (2019) Empathy, place and identity interactions for
1051 sustainability. Global Environmental Change, 56, 11-17.
1052 Bullard, R. D. (1994) A new chicken-or-egg debate: Which came first – the neighbourhood or
1053 the toxic dump?, Workbook, 19, 60-62.
1054 Buns, M. A. (2017) Marching Activists: Transnational Lessons for Danish Anti-Nuclear Protest.
1055 Environment & Society Portal, Arcadia (Summer 2017), no. 18. Rachel Carson Center for
1056 Environment and Society. Online: https://doi.org/10.5282/rcc/7918 [Accessed
1057 14.11.2019].
1058 Burns, T. J., LeMoyne, T. (2001) How environmental movements can be more effective:
1059 Prioritising environmental themes in political discourse. Research in Human Ecology, 8,
1060 26-38.
1061 Carson, R. (1962) Silent spring. Boston: Houghton Mifflin.
1062 Caney, S. (2014) Two kinds of climate justice: Avoiding Harm and Sharing Burdens. The Journal
1063 of Political Philosophy, 22, 125-149.
1064 Climate Action Now (2020). Climate Action Now. Online: https://climateactionnow.ca/
1065 [Accessed 22.06.2020].
1066 Climate Justice Network (2020) Climate Justice Network. Online:
1067 https://www.climatejusticenetwork.org [Accessed 22.06.2020].
1068 Collins Dictionary (2019) Collins Word of the Year 2019 shortlist. Online:
1069 https://www.collinsdictionary.com/word-lovers-blog/new/collins-word-of-the-year-
1070 2019-shortlist,580,HCB.html [Accessed 14.11.2019].
1071 Dale, B., Veland, S., Hansen, A. M. (2019) Petroleum as a challenge to arctic societies:
1072 Ontological security and the oil-driven 'push to the north'. The Extractive Industries and
1073 Society, 6, 367-377.
1074 Dalton, R. J. van Sickle, A., Weldon, S. (2010) The Individual-Institutional Nexus of Protest
1075 Behaviour. British Journal of Political Science, 40, 51-73.
1076 De Groot, J. I. M., Steg, L. (2007) Value Orientations and Environmental Beliefs in Five
1077 Countries, Journal of Cross-Cultural Psychology, 38, 318-332.
1078 De Groot, J. I. M., Steg, L. (2008) Value Orientations to Explain Beliefs Related to
1079 Environmental Significant Behavior, Environment and Behavior, 40, 330-354.
1080 Dove, M. R. (2019) Climate change and the politics and science of traditional grassland
1081 management. In (eds. D. Gibson and J. Newman) Grasslands and Climate Change, pp.
1082 276-292.
1083 Drengson, A. 1995. The Deep Ecology Movement. Trumpeter: 12, 3.
1084 http://trumpeter.athabascau.ca/index.php/trumpet/article/view/313/475 [Accessed
1085 09.06.2020].
1086 Earth Strike. (2020). Earth Strike. General Strike to Save the Planet. Online:
1087 https://www.earth-strike.com/ [Accessed 22.06.2020].
1088 Extinction Rebellion (2020) Extinction Rebellion. Online: https://rebellion.earth [Accessed
1089 22.06.2020].

Fast Company. (2019) Ikea has invested in enough clean energy to power all of its operations (plus extra). September 19, 2019. Online: https://www.fastcompany.com/90405756/ikea-now-generates-more-renewable-electricity-than-it-uses [Accessed 11.11.2019]

Finlay, J. M., Bowman, J. A. (2017) Geographies on the Move: A Practical and Theoretical Approach to the Mobile Interview, The Professional Geographer, 69, 263-274

Fisher, D. R. (2019) The broader importance of #FridaysForFuture. Nature Climate Change, 9(6), 430-431.

Fisher, D. R. (2010) COP-15 in Copenhagen: How the merging of movements left civil society out in the cold. Global Environmental Politics, 10(2), 11-17.

Fisher, D. R., Jasny, L., Dow, D. M. (2018) Why are we here? Patterns of intersectional motivations across the resistance. Mobilization: An International Quarterly, 23(4), 451-468.

Fridays for Future. (2020). Fridays for Future. Online: https://fridaysforfuture.org/ [Accessed 22.06.2020].

Global Climate Strike. (2019). Global Climate Strike → Sep. 20–27. Online: https://globalclimatestrike.net [Accessed 25.10.2019].

Grandin, J., & Sareen, S. (2020). What sticks? Ephemerality, permanence and local transition pathways. Environmental Innovation and Societal Transitions, 36, 72-82.

Gurr, T. (1970) Why Men Rebel, Princeton University Press, Princeton.

Hadden, J. (2014) Explaining variation in transnational climate change activism: The role of inter-movement spillover. Global Environmental Politics, 14(2), 7-25.

Hall, S. (2011). American patriotism, American protest: Social movements since the sixties. University of Pennsylvania Press.

Hall, D., Hirsch, P., & Li, T. M. (2011) Powers of exclusion: Land dilemmas in Southeast Asia. Honolulu, University of Hawaii Press.

Heiskanen, E., Johnson, M., Robinson, S., Vadovics, E., Saastamoinen, M. (2010) Low-carbon communities as a context for individual behavioural change. Energy Policy, 38, 7586-7595.

Hilson, C. (2015) Framing fracking: which frames are heard in English planning and environmental policy and practice?. Journal of Environmental Law, 27, 177-202.

Jamison, A. (2010) Climate change knowledge and social movement theory. Wiley Interdisciplinary Reviews: Climate Change, 1, 811-823.

Kallis, G. (2011). In defence of degrowth. Ecological Economics, 70(5), 873-880.

Kim, B.F., Santo, R.E., Scatterday A.P. et al. (2020) Country-specific dietary shifts to mitigate climate and water crises. Global Environmental Change, 62, 101926.

Kitschelt, H. (1986) Political Opportunity Structures and Political Protest: Anti-Nuclear Movements in Four Democracies, 16, 57-85

Klandermans, B. (2004) "The demand and supply of participation: Social psychological correlates of participation in social movements", in Snow, D., Soule, S. A., Kriesi, H. (eds) The Blackwell Companion to Social Movements, Blackwell Publishers, Oxford, pg. 360-379.

Klandermans, B., van der Toorn, J., van Stekelenburg, J. (2008) Embeddedness and grievances: Collective action participation among immigrants. American Sociological Review, 73, 992-1012.

Klimke, M., & Scharloth, J. (2008) 1968 in Europe: A History of Protest and Activism, 1956–1977. Springer.

Lorenzoni, I., Nicholson-Cole, S., Whitmarsh, L. (2007) Barriers perceived to engaging with climate change among the UK public and their policy implications. Global Environmental Change, 17, 445-459.
Mary Robinson Foundation (2019) Principles of Climate Justice. Online: https://www.mrfcj.org/principles-of-climate-justice/ [Accessed 14.11.2019].
Mazzucato, M. (2018) Mission-oriented innovation policies: challenges and opportunities. Industrial and Corporate Change, 27, 803-815.
Middlemiss, L. (2018) Sustainable consumption: key issues. Routledge.
Mont, O., Neuvonen, A., Lahteenoja, S. (2014) Sustainable lifestyles 2050: Stakeholder visions, emerging practices and future research. Journal of Cleaner Production, 62, 24-32.
Montrie, C. (2018) The Myth of Silent Spring: Rethinking the Origins of American Environmentalism. University of California Press, Berkeley.
Morris, B.S., Chrysochou, P., Christensen, J.D. et al. (2019) Stories vs. facts: triggering emotion and action-taking on climate change. Climatic Change, 154, 19–36.
Mulugeeta, Y., Jackson, T., van der Horst, D. (2010) Editorial: Carbon Reduction at Community Scale. Energy Policy, 38, 7541-7545.
Nash, R.F. 1990. American Environmentalism: Readings in Conservation History; McGraw-Hill: New York, USA.
Ottinger, G. (2013) The winds of change: environmental justice in energy transitions. Science as Culture, 22, 222-229.
Oxford Dictionaries. (2019) Word of the Year 2019. Online: http://languages.oup.com/word-of-the-year/word-of-the-year-2019 [Accessed 04.12.2019].
Perkins, P. E. (2019) Climate Justice, Commons and Degrowth. Ecological Economics, 160, 183-190.
Perez, A. C., Grafton, B., Mohai, P., Hardin, R., Hintzen, K., Orvis, S. (2015) Evolution of the environmental justice movement: Activism, formalization, and differentiation. Environmental Research Letters, 10, 105002.
Pesch, U., Spekkink, W., Quist, J. (2018) Local sustainability initiatives: Innovation and civic engagement in societal experiments. European Planning Studies, 27, 300-317.
Portos, M. (2019) Divided We Stand, (Oftentimes) United We Fight: Generational Bridging in Spain's Feminist Movement and the Cycle of Antiausterity Mobilizations. American Behavioral Scientist, 63, 1447–1468.
Princen, T., Manno, J. P., Martin, P. L. (Eds.). (2015) Ending the fossil fuel era. MIT Press.
Rainey, S. A., Johnson, G. S. (2009) Grassroots activism: An exploration of women of color's role in the environmental justice movement. Race, Gender & Class, 16, 144-173.
Raworth, K. (2017). Doughnut economics: Seven ways to think like a 21st-century economist. Chelsea Green Publishing.
Rootes, C. (1999) Environmental movements: From the local to the global. Environmental Politics, 8, 1-12.
Sareen, S. (2020). Enabling sustainable energy transitions: Practices of legitimation and accountable governance. Palgrave Macmillan.
Sareen, S., Saltelli, A., & Rommetveit, K. (2020). Ethics of quantification: illumination, obfuscation and performative legitimation. Palgrave Communications, 6(1), 1-5.
Saunders, C., Grasso, M., Olcese, C., Rainsford, E., Rootes, C. (2012) Explaining differential protest participation: Novices, returners, repeaters, and stalwarts. Mobilization: An International Quarterly, 17, 263-280.

Savin-Baden, M., Howell Major, C. (2013) Qualitative Research: The essential guide to theory and practice, Routledge, Oxon.
Schlosberg, D. (2007) Reconceiving environmental justice: Global movements and political theories. Environmental Politics, 13, 517-540.
Schussman, A., Soule, S.A. 2005. Process and Protest: Accounting for Individual Protest Participation, Social Forces, 84, 1083-1108.
Seyfang, G., Smith, A. (2007) Grassroots innovation for sustainable development: Towards a new research and policy agenda. Environmental Politics, 16, 584-603.
Sheller, M., Urry, J. (2006) The new mobilities paradigm, Environment and Planning A, 38, 207–226.
Smith, A., Fressoli, M., Thomas, H. (2014) Grassroots innovation movements: Challenges and contributions. Journal of Cleaner Production, 63, 114-124.
Sorrell, S., Speirs, J., Bentley, R., Brandt, A., Miller. R. 2010. Global oil depletion: A review of the evidence, Energy Policy 38, 5290-5295.
Steg, L., Perlaviciute, G, van der Werff, E., Lurvink, J. (2014) The Significance of Hedonic Values for Environmentally Relevant Attitudes, Preferences, and Actions. Environment and Behavior, 46, 163–192.
Sunrise Movement (2020) Sunrise Movement. We Are Sunrise. Online: https://www.sunrisemovement.org/ [Accessed 22.06.2020].
Takao, Y. (2019) Accounting for the Rigidity of Japan's Nuclear Energy Policy, Japanese Studies, 39, 239-261.
The Guardian. (2019) Google signs up to $2bn wind and solar investment. September 20, 2019. Online: https://www.theguardian.com/technology/2019/sep/20/google-says-its-energy-deals-will-lead-to-2bn-wind-and-solar-investment [Accessed 11.11.2019].
Time. (2019) Person of the Year, Greta Thunberg. Online: https://time.com/person-of-the-year-2019-greta-thunberg/ [Accessed 13.12.2019].
Transition Network (2020). Transition Network. A movement of communities coming together to reimagine and rebuild our world. Online: https://transitionnetwork.org/ [Accessed 22.06.2020].
Transition Town Totnes (2020). Transition Town Totnes. Online: https://www.transitiontowntotnes.org/ [Accessed 22.06.2020].
Tschötschel, R., Schuck, A., Wonneberger, A. (2020). Patterns of controversy and consensus in German, Canadian, and US online news on climate change, Global Environmental Change, 60, 101957.
Verplanken, B., Roy, D. (2016) Empowering interventions to promote sustainable lifestyles: Testing the habit discontinuity hypothesis in a field experiment. Journal of Environmental Psychology, 45, 127-134.
Wall, D. (1994) Green History: A reader in environmental literature, philosophy, and politics. London: Routledge.
Watts, L. (2018) Energy at the End of the World: An Orkney Islands Saga. MIT Press.
Whitmarsh, L., O'Neill, S. (2011) 'Introduction: Opportunities for and Barriers to Engaging Individuals with Climate Change' in Whitmarsh, L., O'Neill, S. and Lorenzoni, I. (eds) Engaging the Public with Climate Change, Earthscan, London.
Whitmarsh, L., O'Neill, S., Lorenzoni, I. (2013) Public engagement with climate change: what do we know and where do we go from here?. International Journal of Media & Cultural Politics, 9, 7-25.

1229 Wolf, J., Moser, S. C. (2011) Individual understandings, perceptions, and engagement with
1230 climate change: insight from in-depth studies across the world. WIREs Climate Change,
1231 2, 547-569.
1232 Wolford, W. (2008) Environmental justice and agricultural development in the Brazilian
1233 Cerrado. Environmental justice in Latin America. MIT Press, Cambridge, pp. 213-239.